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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/500,991	02/15/2000	Frank Uhlmann	0652.2040000/REF	3282

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Sterne Kessler Goldstein & Fox PLLC  
Attorneys at Law  
1100 New York Avenue N W  
Suite 600  
Washington, DC 20005-3934

EXAMINER
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FRONDA, CHRISTIAN L

ART UNIT	PAPER NUMBER
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1652

DATE MAILED: 12/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/500,991

Applicant(s)

UHLMANN ET AL.

Examiner

Christian L. Fronda

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 36,37,40,41,43,44,46-49,58 and 59 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 36,37,40,41,43,44,46-49,58 is/are rejected.
- 7) ☒ Claim(s) 59 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

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### DETAILED ACTION

1. Claims 36, 37, 40, 41, 43, 44, 46-49, 58, and 59 are pending and under consideration in this Office Action.

The finality of the previous Office Action has been withdrawn. New rejections and grounds of rejection are presented in the instant non-final Office Action.

2. The rejection of claims 36, 37, 40, 41, 43, 44, 46-49, 58 under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention has been withdrawn in view of applicants arguments in the appeal brief filed 08/30/2006.

3. The rejection of claims 36, 37, 40, 41, 43, 44, and 48 under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (reference AJ cited in PTO 1449 dated 08/03/2000) in view of Ciosk et al. (reference AM cited in PTO 1449 dated 08/03/2000) has been withdrawn in view of applicants arguments in the appeal brief filed 08/30/2006.

### *Claim Rejections - 35 U.S.C. § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 36, 37, 40, 41, 43, 44, 46-49, 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (reference AJ cited in PTO 1449 dated 08/03/2000) in view of Nagase et al. (DNA Res. 1996 Feb 29;3(1):17-24) and Nomura et al. (DNA Res. 1994; 1(5):223-9).

Brown et al. teach a high-throughput fluorometric process for measuring protease activity comprising contacting a fluoregenic peptide labeled at one end with a UV/blue fluorophore and at the other end a quencher in the presence of an inhibitor test compound (see entire publication, especially **Discussion** section on pp. 155-157). Brown et al. does not teach incubating with a test

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compound a separin in the presence of a separin substrate.

Nagase et al. teach the cDNA KIAA0165 (see entire publication, especially Table 1 on p. 19). Waizenegger et al. (Cell. 2000 Oct 27;103(3):399-410) provide evidence that KIA0165 is the human separin, which is the protease for human SCC1 and is involved in sister chromatid separation (see entire publication, especially p. 408, left column, lines 6-28; and p. 409, right column, line 26). Thus, Nagase et al. teach the human separin encoded by cDNA KIAA0165.

Nomura et al. teach the cDNA KIAA0078 (see entire publication, especially Table 1 on p. 226). Sumara et al. (J Cell Biol. 2000 Nov 13;151(4):749-62) provide evidence that KIAA0078 is the human SCC1 (see entire publication, especially p. 750, right column, section titled *cDNA Clones*, lines 37-38). Thus, Nomura et al. teach the human SCC1 encoded by cDNA KIAA0078.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the process of Brown et al. such that the human separin taught by Nagase et al. and the human SCC1 taught by Nomura et al. is used in the process taught by Brown et al., where the human SCC1 is labeled at one end with a UV/blue fluorophore and at the other end a quencher. One of ordinary skill in the art at the time the invention was made would have been motivated to do this for the purposes of having a fast and simple process for identifying human separin inhibitors, which can be used as anti-cancer agents that inhibit sister chromatid separation in cancer cells.

No patentable weight is given to the preamble of these process claims since it merely recites the purpose of these process claims. Thus, the process steps of the modified Brown et al. process stated above renders the claims obvious because these process steps are the same as the process steps of the claims. Because the process steps of the modified Brown et al. process stated above are the same as the process steps of these claims, then the modified Brown et al. process would inherently identify compounds that inhibit sister chromatid separation in eukaryotic cells.

Claim 44 is also included in the rejection because no particular structural features are provided by the process that produces the substrate, which would distinguish it from the human SCC1 substrate taught by Nomura et al. Thus, no patentable weight is given to the process for producing the substrate.

Claim 47 is also included in the rejection because the human SCC1 substrate taught by Nomura et al. is deemed to be a "fragment or variant" of SEQ ID NO: 1. Furthermore, Hauf et al. (Science. 2001 Aug 17;293(5533):1320-3) provide evidence that human SCC1 has two separin cleavage sites (see entire publication, especially p. 1320, middle column, lines 11-13).

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***Conclusion***


6. No claims are allowed.

7. Claim 59 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian L Fronda whose telephone number is (571)272-0929. The examiner can normally be reached Monday-Friday between 9:00AM - 5:00PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapura N Achutamurthy can be reached on (571)272-0928. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CLF



PONNATHAPU ACHUTAMURTHY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1600